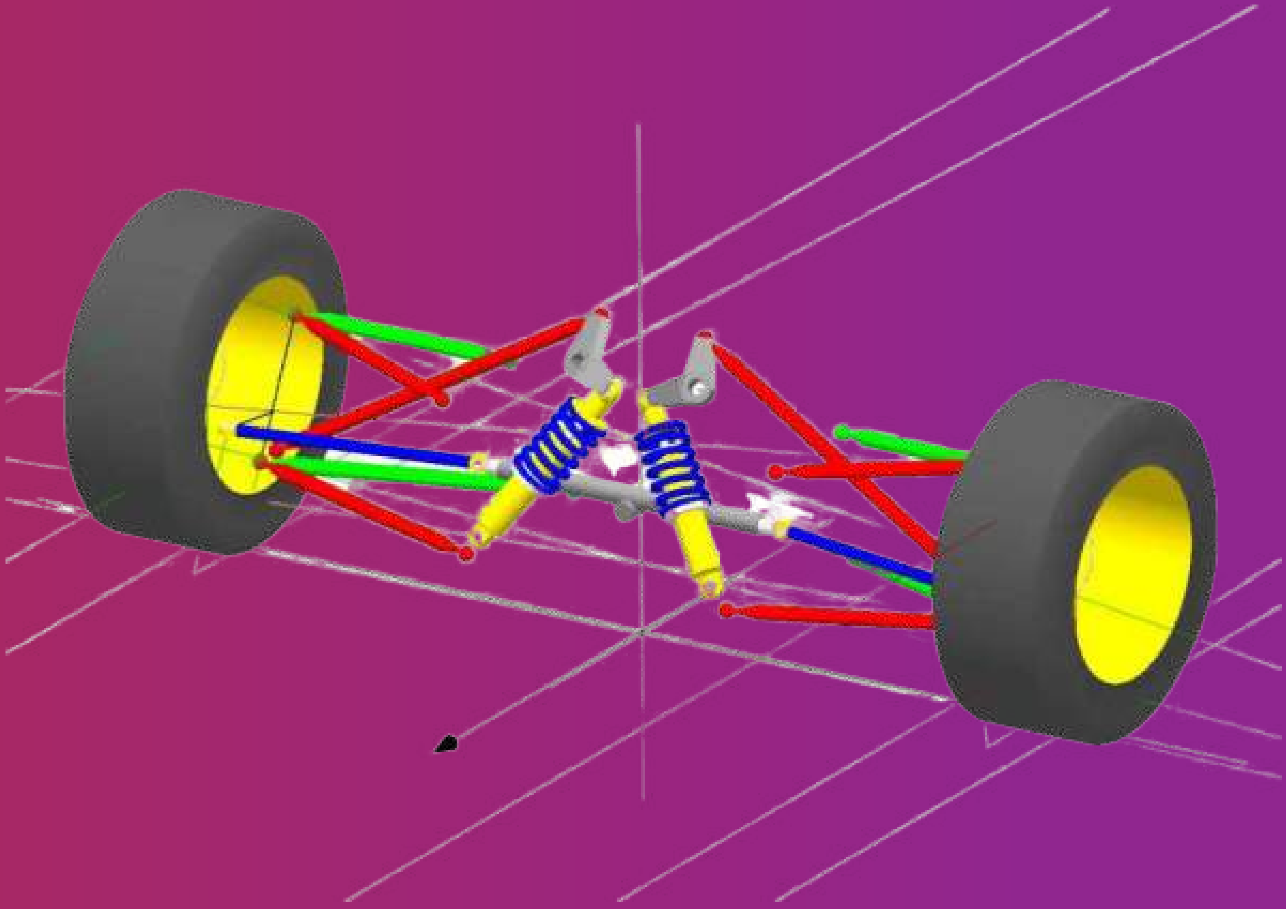
Nano
Degree Program

LOTUS SUSPENSION
Analysis Course

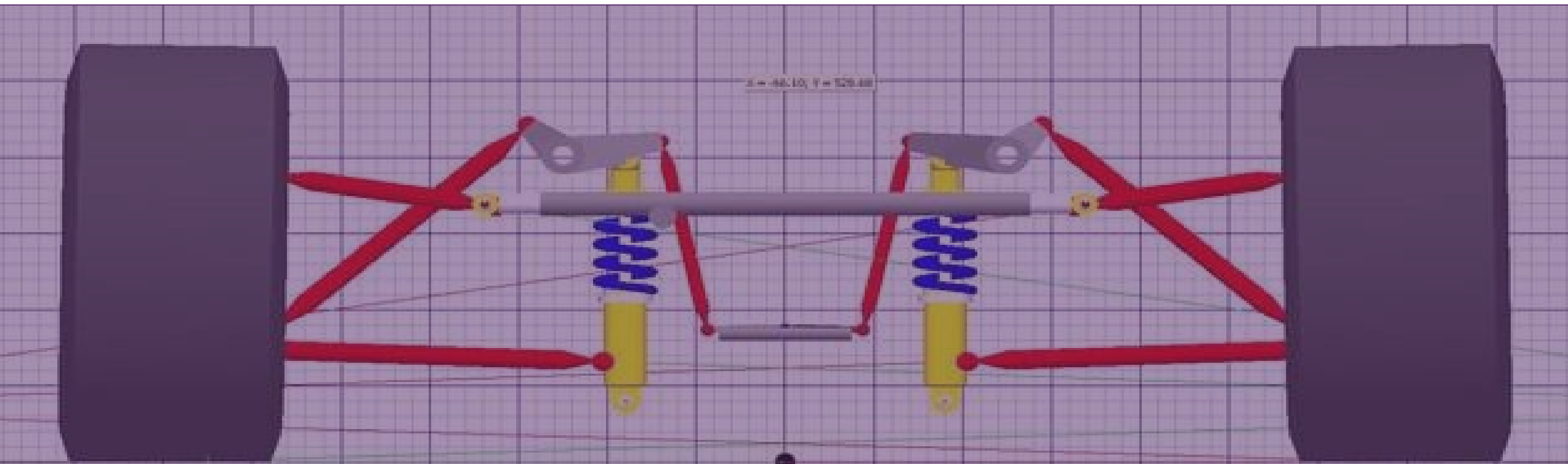


DIYGURU.ORG

Lotus Suspension Analysis provides a user friendly tool for the design and analysis of suspension geometry. Standard suspension types using individual pre-filled templates provide easy creation of kinematic models in either 2D or 3D modes.

Lotus Suspension Analysis templates include Double Wishbones, Macpherson Struts, Trailing arm, Semi-trailing arms, Pull-rod and Push-rod damper actuation, ‘A’ frames and ‘H’ frames. Users can create and distribute their own unique templates.

Kinematic results include Camber Angle, Castor Angle, Toe, Kingpin Angle, Roll Centre Position, Damper Ratio, Spring Ratio, Track Change, Wheelbase Change, % Anti Squat, % Anti Dive and % Ackermann. Results can be displayed either graphically or numerically over specified Bump, Rebound, Roll and Steer articulations.



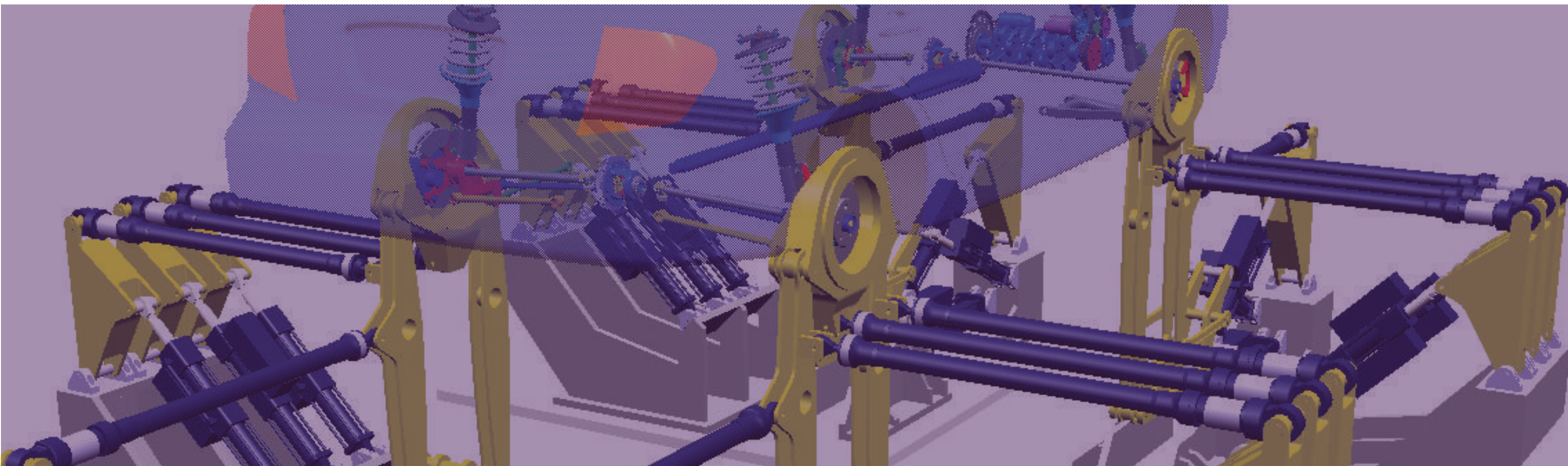
What are the program objectives?

LOTUS provides built-in sub-system and system templates together with pre-defined virtual tests & maneuvers to facilitate the modeling & simulation (M&S) of suspension kinematics & dynamics as well as full-vehicle dynamics. If you are involved with vehicle engineering work at your school, especially for student competitions such as Formula SAE, Baja, Solar Car, and Hybrid or Autonomous Vehicles, then this product is likely to be of interest to you.

LOTUS software allows students to design and simulate their FSAE / BAJA vehicles to maximize their vehicle performance. With LOTUS, FSAE / BAJA teams can quickly build and test their functional virtual prototypes of complete vehicles and vehicle subsystems. FSAE / BAJA engineering teams can exercise their vehicle designs under various road conditions, performing the same tests they normally run in a test lab or on a test track, but in a fraction of time.

What are the main highlights of the program?

- Learn without a career break with online classes available 24*7.
- One can access the course at their own pace, but with the investment of 3-5 hours/week, it can be finished within a month.
- This Program is focused on student-level competitions like SAE BAJA, SAE SUPRA, and even Formula Bharat and Formula-E.
- The program uses a Continuous Evaluation System that assesses the learners over convenient and regular intervals. Such a system provides timely and frequent feedback and helps busy working professionals stay on course with the program.
- The education delivery method is a blend of classroom and experiential learning.
- Participants who will complete the programme become eligible for Mentorship and Placement help through our Job Fairs.



Who should apply?

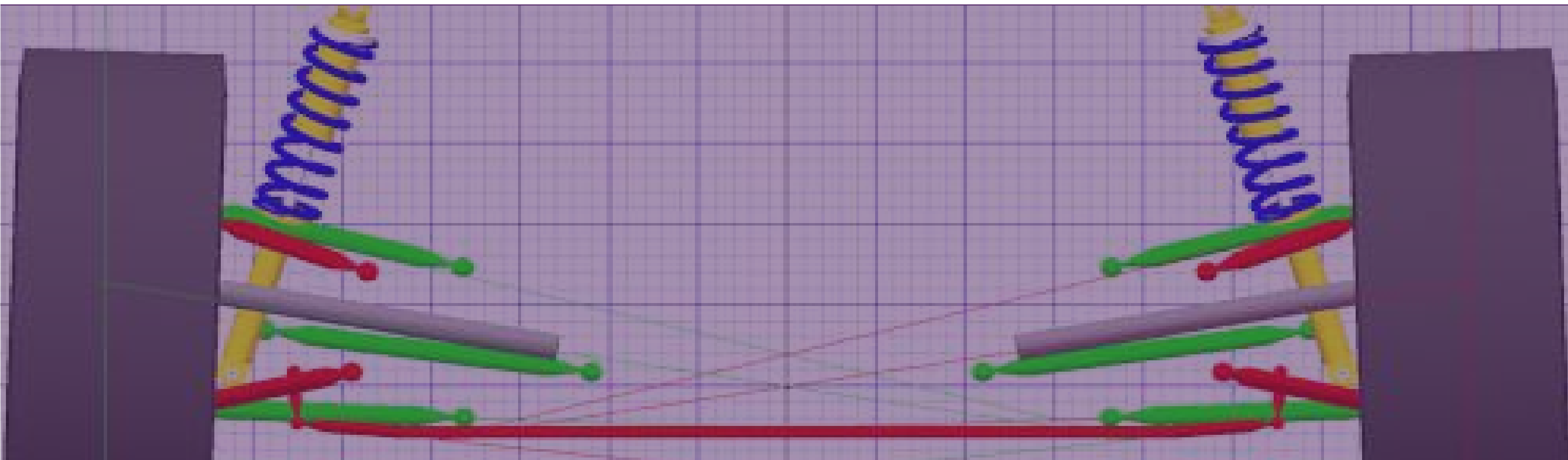
The programme is designed for students or professionals who are:

- Students participating in SAE Competitions (BAJA, FSAE, SUPRA, Formula Car Championships).
- Professionals who are in the R&D sector of Automotive Companies.
- Tech. & Ph.D. students working in Suspension Designing.
- Enthusiasts who are making projects on Automobiles and are finding it hard to do the body balancing analysis.

What are the technical requirements?

The programme to give its best will need following requirements:

- Computer/ Laptop will provide you with the best experience, but this program is quite compatible with smartphones to make it feasible for students worldwide.
- High-speed internet for crystal clear experience, but this program can also run without buffering with below-average connectivity for reaching out students from suburban and rural areas.
- A student should make their notes for future reference.
- A student should have basic knowledge about high-school physics, chemistry and maths, even though the pre-requisite of this programme will brush up one's basic concepts.
- A student should have a compatible computer for LOTUS software so that they can practice with the progress of the course.



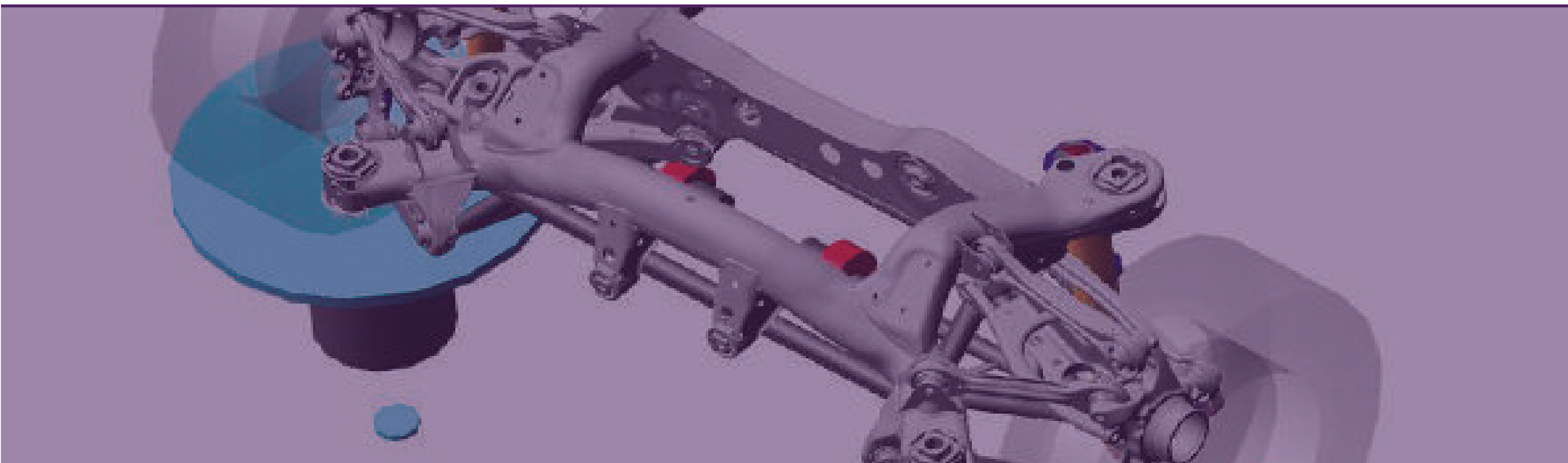
What is the learning methodology?

DIYguru presents a Nano Degree program on LOTUS Suspension Analysis Course. This program provides you with the most flexible learning environment possible. This program is offered as a self-paced program often referred to as an asynchronous online program which is time-independent, meaning that it can be accessed 24X7 within the tenure of 10 days.

This program can be accessed from multiple devices which makes it easy to learn on the go. Lectures that are pre-recorded or slide presentation with voice-over commentary, interactive discussion boxes that foster student to student interaction, Email communication with the instructor are part of this process.

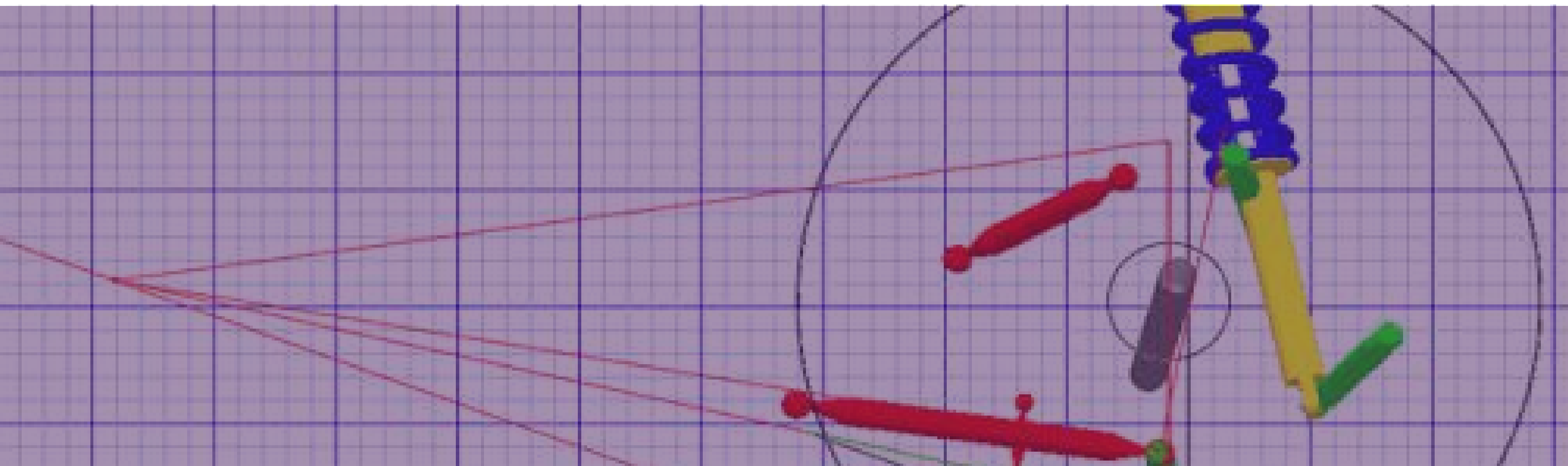
What are the learning outcomes?

- Simulate your model and find ride heights at various state of the load
- Simulate your model and find ride frequencies
- Simulate your model and find roll stiffness or degree of lateral acceleration
- Simulate your model and find the distribution of load front and rear
- Simulate your model and find jounce travel in bump or compression
- Simulate your model and find rebound travel in drop or extension
- Simulate your model and find camber
- Simulate your model and find caster
- Simulate your model and find toe in/out



Program Structure

- Software Install & Download
- Selecting Suspension Points
- Changing Parameters
- Design of Suspension



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"Just a quick note to let you know how pleased and impressed we are with the two day training programme handled at our premises. We were very new to the Electric Vehicle aspect and terminology used for as a non - technical personnel. Though the topic of Electric vehicle is a bit typical and dry, the way the trainer has kept us in pace with interactive session and made the thing clear and clarified the doubts we raised was very much helpful "

- Rajesh Mutharaju, Head HR - Hyundai Motors

"At Bosch Bangalore & Coimbatore, the DIYguru training programme has helped a lot in improvising the concepts of Electric Vehicle Design & Engineering for our experienced and fresh employees. The trainers are of high quality and knowledgable in terms of delivering the contents and making things understandable. We look forward to have a continuous relationship."

- R Shashi Kumar, Head HR - Robert Bosch Engineering

"Partnering with DIYguru we can see the budding entrepreneurs working closely on EV projects. I can see the interaction and enthuse which is there with all the young boys and girls who are part of this project. They are doing exceptionally well and I congratulate entire DIYguru team to further get more the guys and be a part of the electric revolution."

- Praveen Shrivastava, Zypp Mobycy

"DIYguru is giving a platform to new entrepreneurs in building up skills so that they get ready for the current market requirement. They are bridging the gap between the actual industrial requirement and conventional education system which are available with the schools and colleges."

- Sumit Agrawal,, Engineer & Entrepreneurs

"Doing this course helped me to understand the fundamentals of an electric vehicle, from Batteries to power train BMS to controller the basic know -hows are clear to me. This course helped me to change my attitude from mobility as a product to mobility as a service. As a student, I have got to understand the job and business opportunity which are waiting at our doorsteps within E mobility sector."

- Atharva Pitale, Yashwantrao Chavan College of Engineering

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